

MECHANISM FOR EFFECTING A FAST DATA TRANSMISSION BETWEEN COMMUNICATION DEVICES

FIELD OF THE INVENTION

5 The present invention relates to communication devices and more particularly to a mechanism for effecting a fast data transmission between communication devices.

BACKGROUND OF THE INVENTION

10 In recent years, the unit price of cellular phone has reduced significantly as the booming of communication industry. And in turn more and more people like to use cellular phones. Further, as the development revolved more advantageous benefits are provided by mobile phones such as slim, multifunctional, and convenient while still maintaining a high communication
15 quality. Moreover, there is a communication software provided by a newly commercial mobile phone for providing a variety of data transmissions such as alphabetic data, graphical data, or the like. Hence, in additional to conversation it is possible of communicating alphabetic data, graphical data, etc. between two mobile phone users. This greatly enhances the convenience of communication
20 among people.

 A conventional data transmission implemented by mobile phones is shown in FIG. 1 wherein data is transmitted from one mobile phone to a specific remote mobile phone or a plurality of remote mobile phones through a telephone exchange. However, in either of above case the data transmission rate is at most
25 14K bit per second (bps) as defined by the existing mobile phone communication protocol. Hence, a lot of time is consumed in transmitting a large data. This is inconvenient in use. Thus improvement exists.

SUMMARY OF THE INVENTION

It is therefore an object of the present invention to provide a mechanism comprising a data transmission software in a memory of each of communication devices and a data transmission interface in each device respectively for establishing a connection between the devices through at least one signal line and effecting a data transmission therebetween wherein in transmitting data from one device to the other remote one, the data transmission software divides data into a plurality of units each having a predetermined size, the units are individually transmitted to the other device through the signal line, and the other device transmits the units through a wireless communication; and in receiving data, the data transmission software in the device receives the units sent from the remote other device, the received units are sent to one of the devices through the signal line, and the data transmission software in the device regroups the units to recover as an original data. By utilizing this, it is possible of effecting a fast data transmission between communication devices.

The above and other objects, features and advantages of the present invention will become apparent from the following detailed description taken with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 schematically shows a conventional data transmission implemented by mobile phones;

FIG. 2 schematically shows a fast data transmission implemented by communication devices according to the invention;

FIG. 3 is a flow chart diagram showing how CPU of a communication device transmits data; and

FIG. 4 is a flow chart diagram showing how CPU of the other communication device receives data.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

5 Referring to FIG. 2, there is shown a mechanism for effecting a fast data transmission between communication devices constructed in accordance with the invention. A data transmission interface is provided in each communication device. A data transmission software is installed in memory of communication device. With such interface, one communication device may establish a
10 connection with another communication device having the same configuration through at least one signal line. Thus, communication devices may effect a signal transmission therebetween.

In the case of transmitting data from one communication device to another remote one, user may input instructions provided by the data transmission
15 software by keying on one communication device for setting one communication device as a master and another communication device as a slave. Then the data transmission software divides data into a plurality of units each having a predetermined size. Such units are individually transmitted to slave through signal line. Finally, all channels belonging to master and slave are utilized for
20 transmitting units through wireless communication.

In another case master and slave may utilize data transmission software to receive units from a remote communication device. Then units are sent to one master. Data transmission software in the communication device may then regroup units to recover a complete original data. Note that methods for dividing
25 data and regrouping data units are well known. Further, the object of the invention is not to provide a method to solve problems associated therewith. Thus a detailed description thereof is omitted herein for the sake of brevity.

In the invention, data transmission interface is a universal serial bus (USB). Communication device may utilize a transmission protocol implemented in USB to determine how to transmit signal. In detail, in response to data divided into units by master the transmission protocol implemented in USB is utilized to
5 transmit units to a remote communication device through an appropriate slave. As the remote communication device receives units, transmission protocol is again utilized to send the received units to master for regrouping.

In the invention, when data is divided into a plurality of units by master a unique identification (ID) associated with one communication device (master or
10 slave) is assigned to each unit. Hence master may send unit to a corresponding slave based on the ID. Moreover, as the communication device receives units and the received units are sent to master for regrouping, data transmission software in master may assemble units to recover a complete original data based on the IDs.

Referring to FIG. 3, a flow chart diagram shows how a central processing unit (CPU) of a communication device transmits a record of data. In step 301, user may input instructions provided by the data transmission software by keying on one communication device for setting one communication device as a master and another communication device as a slave. In step 302, data transmission
15 software in master determines whether a division of data is necessary. If yes, process goes to step 303. If not, process goes to step 306 for causing master to transmit data prior to ending the process. In step 303, divide data into a plurality of units and assign a unique identification (ID) associated with one communication device to each unit. In step 304, transmit units to a
20 communication device through signal line. In step 305, the communication device transmits units.

FIG. 4 is a flow chart diagram shows how CPU of the other communication

device receives data. In step 401, receive associated units as determined by the data transmission software. In step 402. Transmit units to a communication device set as a master through signal line. In step 403, data transmission software in the master is utilized again to regroup units to recover the original
5 record of data.

In the invention, communication device is implemented as a mobile phone. Also, data transmitted on mobile phone is divided into a plurality of units each having a predetermined size which is no more than 14K bit per second (bps) as defined by the existing mobile phone communication protocol. In one example, a
10 record of data having a size of 100K bit per second (bps) is divided into eight units each of 12.5K bit per second (bps). Hence, it is possible of transmitting such data in one second if there are eight mobile phones are coupled together. Hence, the invention can significantly save data transmission time.

While the invention has been described by means of specific embodiments,
15 numerous modifications and variations could be made thereto by those skilled in the art without departing from the scope and spirit of the invention set forth in the claims.